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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,137

11/09/2005

Shinji Hamada

P28782

5985

7055 7590 09/08/2009  
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EXAMINER

LAIOS, MARIA J

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

09/08/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/556,137	<b>Applicant(s)</b> HAMADA ET AL.	
	<b>Examiner</b> MARIA J. LAIOS	<b>Art Unit</b> 1795	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20090722, 20071030, 20060217, 20090819</u> .                  | 6) <input type="checkbox"/> Other: ____.                          |



## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

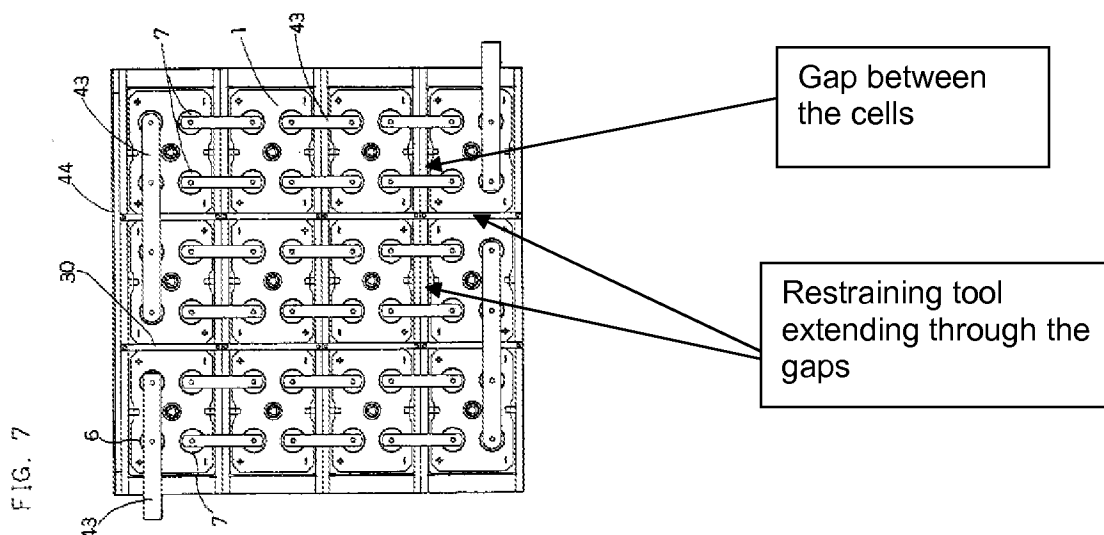
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

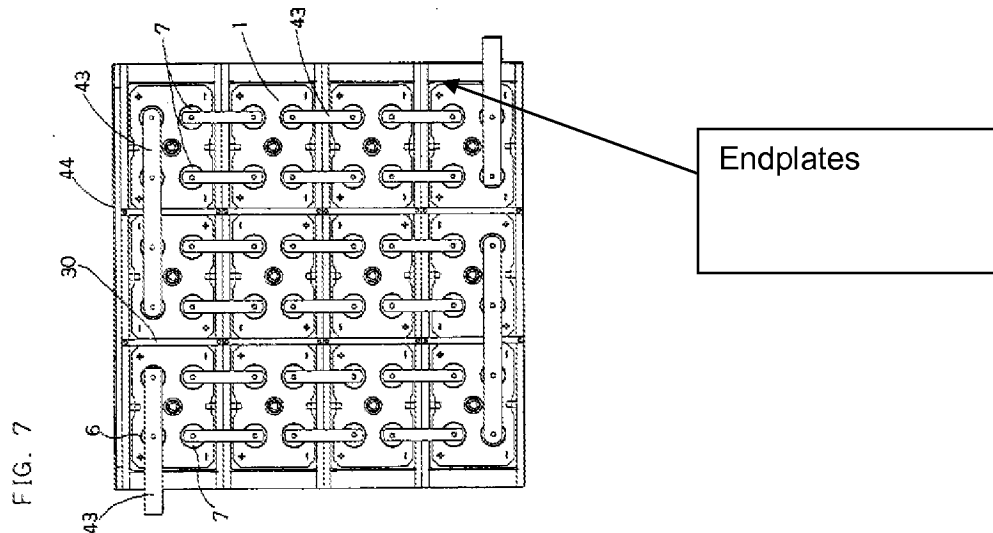
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 7-9, 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ido et al. (US 6,326,103 B1).

As to claim 1, Ido et al. discloses a battery pack (Figure 7) comprising a plurality of parallel arranged battery modules comprising cells (1). The cells are connected in series (col. 9 lines 53-55). Gaps are formed between the cells and a restraining tool extend through the gaps of the parallel arranged battery module and between two given cells (see figure below).



As to claim 3, Ido et al. discloses endplates (see figure below) and connecting the coupling members to the endplates.



As to claim 4, Ido discloses cooling gaps between the cells (col. 9 lines 15-18).

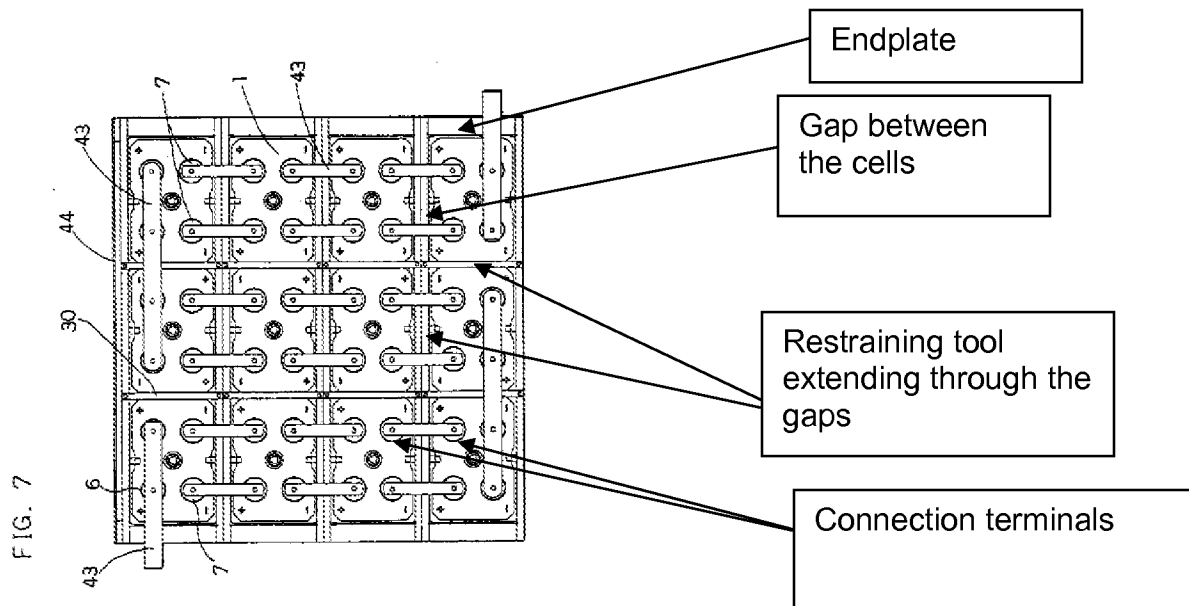
As to claim 5, Ido discloses the components forming the cooling medium passages (28) are formed of separate spacer (32) portions independent of the battery module.

As to claim 7, Ido et al. discloses the spacer portion (32) have hold portion that fit in the gaps between the cells for positioning the cells (Figure 6).

As to claim 8, Ido et al. discloses the spacer portion having projections (32) that abut on the cells to form cooling medium passages (Figure 2).

As to claim 9, Ido discloses fins (14. ribs) along the sides of the cells (Figure 3) which allow air to pass through.

As to claim 10, Ido discloses a battery pack (Figure 7) comprising a plurality of parallel arranged battery modules comprising cells (1). The cells are connected in series (col. 9 lines 53-55) by protruding connection terminal on the top side of the cell. Gaps are formed between the cells and a restraining tool extend through the gaps of the parallel arranged battery module and between two given cells (see figure below).



Ido et al. discloses endplates (see figure above) and connecting the coupling members to the endplates. Ido et al. discloses the spacer portion (32) have holder portion that fit in the gaps between the cells for positioning the cells (Figure 6). Ido et al. discloses the spacer portion having projections (32) that abut on the cells to form cooling medium passages (Figure 2).

As to claim 14, Ido et al. discloses a holder (figure 6) including support portions at both ends (39) which are placed on support members and one of the supports is provided with a screw hole (Figure 6 and 8).

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As to claim 15, Ido et al. discloses the support portions at both ends of the holders (39, Figure 6) formed with an engaging protrusion on one side and an engaging recess on the other side (Figure 8)

As to claim 16, Ido discloses the holder (figure 6) engaging with the top (21) and bottom case (22) (figure 2). The case sits upon the holder thus the holders engage with the case.

As to claim 17, Ido discloses the spacer portions abut on the faces of the cells to form cooling medium passages (Figure 7).

As to claim 18, Ido discloses ribs of the cells (heat dissipation fins) allow air to circulate between the ribs from openings (28) along the long faces of the cells (Figure 2 and col. 9 lines 12-19)

As to claim 19, Ido discloses the connection members are arranged on both sides of each of the cell of the battery modules (Figure 7).

As to claim 20, Ido discloses the ribs of the cells (heat dissipation fins) allow air to circulate between the ribs from openings (28) along the long faces of the cells (Figure 2 and col. 9 lines 12-19).

As to claim 21, Ido discloses the ribs (14) as part of the case (thus are pressed against the long side faces of the cells) because the spacer portions are next to the ribs, a pressure is applied to the spacer and a cooling medium passages (32 and the openings 28) are formed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2, 6, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al. (US 6,326,103 B1) as applied to claims 1, 3-5, 7-9, 14, 16, 19-21 above and further in view of Hamada et al. (US 2003/0211384 A1).

As to claims 2 and 11, Ido et al. discloses a battery pack as is described above but fails to disclose a connection terminal which protrudes from opposite side faces of the cell. Hamada et al. discloses a battery pack and teaches connection terminals (36, 37) on the sides of the cells which cause a gap to form between the cells (Figure 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the connectors on the sides of the cells of Ido as shown by Hamada et al. in order to form a compact battery pack since the connectors would not have to protrude from the top.

As to claims 6 and 13, Ito discloses the cases made of synthetic resin such as polypropylene (col. 6 lines 15-20) but does not disclose the case as metal or as spacer portions (32) described as insulated.

Hamada et al. discloses the cases of the cells to be metal and the spacer to be electrically insulating material (Paragraph 55). The metal cases enhance the cooling capacity of the battery and the spacers ensure the insulation between the rechargeable



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batteries (Paragraph 55). It would have been obvious to one of ordinary skill in the art at the time of the invention to make the case of Ido with a metal in order enhance the cooling capacity and the spacers of insulative material in order to ensure insulation between the rechargeable batteries.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al. (US 6,326,103 B1).

As to claim 12, Ido et al. discloses the holder portions as is discussed above but does not disclose the holders engaging with the half or less of the width of the short side faces of the cells.

It would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the size of the holder which engages the cells of Ido in order to use less space thus make the pack more compact. Furthermore it has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Also see MPEP 2144.

### **Conclusion**

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA J. LAIOS whose telephone number is (571)272-9808. The examiner can normally be reached on Monday - Thursday 10 am -7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J. L./  
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/  
Supervisory Patent Examiner, Art Unit 1795